EXAMINERS Amendment

In re Appln. of Hideo YOSHIDA
Application No. 10/670,774

CLAIM AMENDMENTS

1. (Currently Amended) A rangefinder apparatus comprising:

autofocus (AF) data generating means for forming an image of light from an object to be subjected to rangefinding onto a pair of line sensors, each line sensor including a plurality of light-detecting elements, and generating AF data for computing a correlation value according to signals obtained from the light-detecting elements;

AF data acquiring means for acquiring the AF data from a pair of employed sensor areas used for rangefinding in the pair of line sensors;

correlation value computing means for determining a pair of window areas for selecting the AF data to be used for computing a correlation value within the pair of employed sensor areas, and successively computing correlation values while shifting the pair of window areas;

object distance calculating means for detecting a shift amount of the window areas yielding highest correlation according to the correlation values computed by the correlation value computing means and calculating distance to the object according to the shift amount yielding the highest correlation; and

rangefinding incapability determining means for calculating an index value indicative of degree of oscillation of the AF data in predetermined areas of the pair of line sensors, and determining~~, according to the index value, whether~~ that the rangefinder apparatus is incapable of rangefinding~~ is incapable~~ when the index value is larger than a reference value.

2. (Previously Presented) The rangefinder apparatus according to claim 1, wherein the rangefinding incapability determining means

samples AF data at a predetermined interval in a predetermined area of each line sensor, and adds respective absolute values of the differences between couples of AF data sampled at the sampling points adjacent to each other to calculate a contrast integration value for each line sensor;

subtracts the absolute minimum value of the AF data in the predetermined area of each line sensor from the absolute maximum value of the AF data in the predetermined area of each line sensor to calculate maximum contrast gap; and

calculates a ratio between the sum of the contrast integration values for respective predetermined areas and the sum of the maximum contrast gaps for respective predetermined areas as the index value.

EXAMINERS AMENDMENT

3. (Original) A camera comprising the rangefinder apparatus according to claim ~~1~~.

4. (Original) A camera comprising the rangefinder apparatus according to claim ~~2~~.

5. (New) A rangefinder apparatus comprising:

autofocus (AF) data generating means for forming an image of light from an object to be subjected to rangefinding onto a pair of line sensors, each line sensor including a plurality of light-detecting elements, and generating AF data for computing a correlation value according to signals obtained from the light-detecting elements;

AF data acquiring means for acquiring the AF data from a pair of employed sensor areas used for rangefinding in the pair of line sensors;

correlation value computing means for determining a pair of window areas for selecting the AF data to be used for computing a correlation value within the pair of employed sensor areas, and successively computing correlation values while shifting the pair of window areas;

object distance calculating means for detecting a shift amount of the window areas yielding highest correlation according to the correlation values computed by the correlation value computing means and calculating distance to the object according to the shift amount yielding the highest correlation; and

rangefinding incapability determining means for calculating an index value indicative of degree of oscillation of the AF data in predetermined areas of the pair of line sensors, and determining, according to the index value, whether rangefinding is possible, wherein the rangefinding incapability determining means

samples AF data at a predetermined interval in a predetermined area of each line sensor, and adds respective absolute values of the differences between couples of AF data sampled at the sampling points adjacent to each other to calculate a contrast integration value for each line sensor;

subtracts the absolute minimum value of the AF data in the predetermined area of each line sensor from the absolute maximum value of the AF data in the predetermined area of each line sensor to calculate maximum contrast gap; and

calculates a ratio between the sum of the contrast integration values for respective predetermined areas and the sum of the maximum contrast gaps for respective predetermined areas as the index value.

EXAMINER'S AMENDMENT

6. (New) A camera comprising the rangefinder apparatus according to claim 5.